

## RESEARCH NOTE

### Surveillance of Legionnaires' disease in Austria

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### ABSTRACT

Seven foreign cases of travel-associated Legionnaires' disease were associated with two neighbouring tourist villages in Austria between 1992 and 2004. The seven foreigners stayed in four hotels located in a geographical diameter of less than 10 km. Two cases were diagnosed in The Netherlands and five in the UK. The first case occurred in 1992, while the remaining cases clustered between August 2000 and April 2004. None of these cases was reported officially as part of a hotel-associated cluster, thereby highlighting several weaknesses of the infectious disease control systems involved.

**Keywords** Austria, EWGLI, Legionnaires' disease, surveillance systems, travel-associated disease

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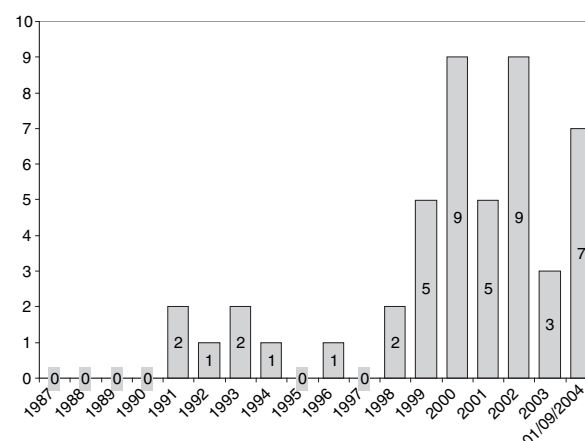
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The European Working Group for Legionella Infections (EWGLI) was formed in 1986 to facilitate international collaboration across Europe with regard to Legionnaires' disease. In 1987, the EWGLI established a surveillance scheme for travel-associated Legionnaires' disease (EWGLI-NET) that aimed to track all cases of the disease in European residents, and thereby identify clusters of cases associated with particular sites [1]. Austria has been part of this surveillance system

since 1987 and is represented by the National Reference Centre for Legionella Infection.

Between 1987 and September 2004, 47 foreign cases of travel-associated Legionnaires' disease (Fig. 1) related to Austrian accommodation sites were reported to the Austrian National Reference Centre for Legionella Infection. The increase in numbers probably reflects the European-wide improvement in detection methods, particularly following the introduction of urinary antigen tests. Seven of these cases of travel-associated Legionnaires' disease, diagnosed outside of Austria, were associated with tourists staying in two neighbouring villages (governed by three local mayors) in Austria.

The seven foreigners stayed in four hotels within a geographical diameter of <10 km. Two cases were diagnosed in The Netherlands and five in the UK. Six of the seven patients were male; the median age was 61 years (range 44–79 years). The first case occurred in 1992 (a male aged 44 years; UK), while the remaining cases clustered between August 2000 and April 2004. Case no. 3 (a female aged 63 years; UK) acquired lethal pneumonia in September 2000 in the same hotel to which the first case was related. Case no. 2 (a male aged 61 years; UK) acquired the infection (the outcome of the disease could not be ascertained) in August 2000, probably in the same hotel as case no. 7 (a male aged 74 years; UK), who became ill in April 2004. Case no. 4 (a male aged 61 years; The Netherlands) acquired pneumonia in May 2001, probably in the same hotel as case no. 6 (a male



**Fig. 1.** Foreign cases of travel-associated Legionnaires' disease related to Austrian accommodation sites between 1987 and September 2004 ( $n = 47$ ).

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aged 51 years; The Netherlands), who became ill in January 2004 (the outcome could not be ascertained for either of these two cases). None of these cases was reported officially as being part of a hotel-associated cluster. EWGLI guidelines require that cases related to a single accommodation site must occur within 2 years in order to be considered as a hotel cluster [2]. Case no. 5 (a male aged 79 years; UK) occurred in April 2003 in a fourth hotel.

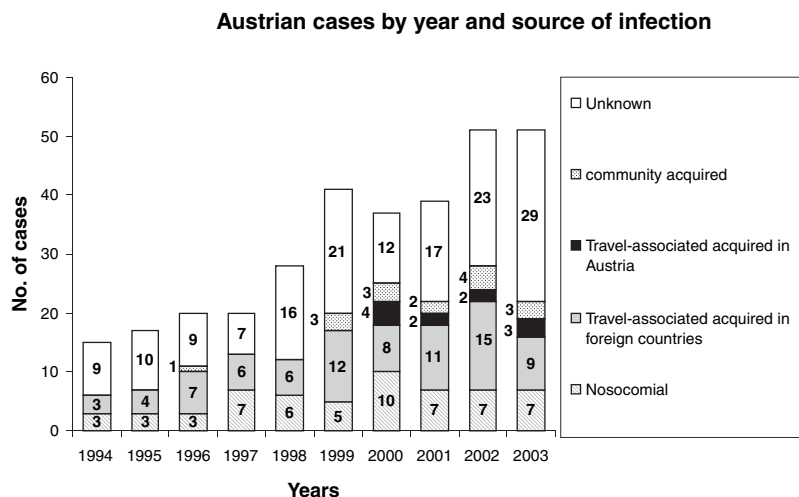
The Austrian province involved had been affected previously by a major cluster of travel-associated Legionnaires' disease related to a single tourist village [3]. This province has been the likely source of 22 of 40 reported cases of travel-associated legionellosis related to Austrian hotels between 1998 and September 2004. During this period, the frequency of travel-associated Legionnaires' disease in this province was 0.080/1 million overnight stays, compared with 0.035/1 million overnight stays for the remaining eight Austrian provinces. Such clusters of disease that affect only foreigners serve to illustrate the importance of European-wide surveillance systems for infectious disease prevention and control. In view of the absence of domestic cases related to these two villages, none of the Austrian hotels would have been identified as a probable source of infection.

These observations highlight several weaknesses of the infectious disease control systems involved. First, the official Austrian infection control system, which imposes responsibility on each individual county, is inappropriate. At the local level, e.g., in a community that relies on

tourism as the main source of income, conflicts of interest could represent an insurmountable barrier for appropriate outbreak controls. Second, the absence of legal responsibility of an individual Austrian province in the statutory control of infectious diseases hampers coordinated outbreak management at the province level.

Austrian hotels are also a significant source of infection for Austrian travellers. Between 1994 and 2003, the probable source of *Legionella* infection in Austrian citizens was elucidated for 166 (52%) of 319 cases. Of these 166 Austrian citizens, infection in 81 (49%) cases was associated with foreign travel, but 11 (6%) Austrian citizens acquired travel-associated infection during travel within Austria. The fact that the number of Austrian citizens infected in Austrian hotels is relatively low is probably the result of a low frequency of internal tourism in Austria, rather than a higher standard of *Legionella* control in Austrian accommodations as compared to accommodation sites in other European countries. Nosocomial infection accounted for 58 (35%) of the 166 cases, and 16 (10%) cases were community-acquired. Fig. 2 shows the cases diagnosed in Austrian citizens between 1994 and 2003. Diagnosis of cases by means of the urinary antigen test increased from 15% in 1994 to 78% in 2003. The incidence of legionellosis has probably not changed during this period.

The main countries linked to travel-associated Legionnaires' disease in 2003, according to the reports to EWGLINET, were Italy and France [1]. The apparent relatively high infection rates in these countries are caused largely by the fact that



**Fig. 2.** Austrian cases of Legionnaires' disease by source of infection between 1994 and 2003.

both of these countries report cases of the disease in their citizens who have been travelling within their own countries. In 2003, 17 of the 18 clusters reported in France would not have been detected without internal reporting, and six of 14 clusters in Italy would also have been missed [1]. In other countries, such as Austria, data protection is often a welcome justification for impeding mandatory reporting of all cases to EWGLINET. Fear of being blamed as a 'nestbeschmutzer' (a person who spoils his/her own nest) is an additional obstacle to addressing national problems at a European level, with the result that relevant opportunities to prevent avoidable disease are missed. The cases of Legionnaires' disease associated with travel in Austria, both in foreigners and in Austrian citizens, highlight the need for implementation of the European guidelines [2], adapted to national conditions, so that the appropriate measures can be taken to control the risk of travel-associated Legionnaires' disease.

## REFERENCES

1. Ricketts K, Joseph C, on behalf of the European Working Group for Legionella Infections. Travel associated Legionnaires' disease in Europe: 2003. *Euro Surveill* 2004; **9**: 5–6.
2. Members of the European Surveillance Scheme for Travel Associated Legionnaires' Disease and the European Working Group for Legionella Infections. *European guidelines for control and prevention of travel-associated Legionnaires' disease*. [http://www.ewgli.org/public\\_info/publicinfo\\_european\\_guidelines.asp](http://www.ewgli.org/public_info/publicinfo_european_guidelines.asp).
3. Schmid D, Wewalka G, Allerberger F. Need for national level outbreak control in Austria. *Lancet* 2004; **363**: 2002.

## RESEARCH NOTE

### Clinical features and outcome of patients with community-acquired *Pseudomonas aeruginosa* bacteraemia

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## ABSTRACT

Cases of community-acquired *Pseudomonas aeruginosa* bacteraemia ( $n = 39$ ) that occurred at a tertiary-care hospital during a 5-year period were analysed retrospectively. The commonest underlying diseases were solid tumour (41%) and haematological malignancy (18%). Most (44%) of the patients were neutropenic, and 39% had septic shock at initial presentation. The 30-day attributable mortality rate was 39%. Two previously healthy patients were identified with fatal *P. aeruginosa* pneumonia with bacteraemia. *P. aeruginosa* bacteraemia is a fatal infection that should be considered in the differential diagnosis of patients presenting from the community with rapidly progressive sepsis.

**Keywords** Bacteraemia, community-acquired, pneumonia, *Pseudomonas aeruginosa*, sepsis, treatment outcome

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